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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/522,958	03/10/2000	Katsuhiko Asai	15162/01590	4595

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EXAMINER	
CHOW, DOON Y	
ART UNIT	**PAPER NUMBER**
2675	

DATE MAILED: 03/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/522,958	Applicant(s) ASAI ET AL.	
	Examiner Dennis-Doon Chow	Art Unit 2675	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 March 2000*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-54* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-54* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 recites a limitation of "not comprising a power switch for turning on and off a main power source". This limitation is not disclosed or suggested in the disclosure. In fact, page 18 of specification recites "the CPU 51 starts working when **a power switch** is turned on".

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-2, 5-6, 8-18, 20, 23-24, 26, 28-32, 34 and 47-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Powell "Cholesteric LCDs show images after power is turned off" in view of Iwamoto (4802739) and Moon (5926173).

Powell discloses a liquid crystal display device comprising: a liquid crystal display which uses reflective type liquid crystal with a memory effect (page 99, second paragraph), wherein the liquid crystal display exhibits a cholesteric phase. Powell also

discloses turning power off and displaying images while the power is off (see title). The liquid crystal display inherently comprises a power supply circuit, an input means, a driving circuit, a controller, a controller and central processing unit for generating and outputting image information.

Powell does not explicitly disclose the use of a booster circuit.

Iwamoto, in the same display field discloses a power supply comprising a booster circuit for boosting a voltage level to a desired level.

It would have been obvious to one of ordinary skill in the art to use Iwamoto's booster circuit in Powell's power supply for the same reason as Iwamoto uses in the his invention, which is boosting a voltage level to a desired level.

Powell does not disclose using a specific method for turning the power on and off in the display device.

Moon, in the same display field, discloses turning power on and off in a liquid crystal display device by inactivating a power supply circuit using a controller unit, wherein some of internal circuits are also inactivated when the power supply circuit is inactivated. The display device comprises a timer for controlling the timing of turning the power off. Moon further discloses detecting and accepting a write command to the display even while the power is off (column 5, lines1-8) and performing image writing on the display in response to the write command.

It would have been obvious to one of ordinary skill in the art to use Moon's power off method in Powell's invention to turn the power on and off since Powell does not teach using any specific method for turning the power on and off.

4. Claims 3-4, 7 and 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Powell "Cholesteric LCDs show images after power is turned off" in view of Choi (6115033).

Powell discloses a liquid crystal display device comprising: a liquid crystal display which uses reflective type liquid crystal with a memory effect (page 99, second paragraph), wherein the liquid crystal display exhibits a cholesteric phase. Powell also discloses turning power off and displaying images while the power is off (see title). The liquid crystal display inherently comprises a power supply circuit, an input means, a driving circuit, a controller, a controller and central processing unit for generating and outputting image information.

Powell does not disclose using a specific method for turning power off in the display device.

Choi discloses a display device comprising a power saving means for saving power consumption. The power saving means includes a controlling means for activating a sleep mode of a central processing unit (a microcomputer, see abstract). Choi further discloses detecting and accepting a write command to the display even while the power is off and performing image writing on the display in response to the write command.

It would have been obvious to one of ordinary skill in the to use Choi's concept in Powell's invention to turn the power off since Powell does not teach using any specific method for turning the power off.

5. Claims 3-4, 7 and 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Powell "Cholesteric LCDs show images after power is turned off" in view of Moon (5926173).

Powell discloses a liquid crystal display device comprising: a liquid crystal display which uses reflective type liquid crystal with a memory effect (page 99, second paragraph), wherein the liquid crystal display exhibits a cholesteric phase. Powell also discloses turning power off and displaying images while the power is off (see title). The liquid crystal display inherently comprises a power supply circuit, an input means, a driving circuit, a controller, a controller and central processing unit for generating and outputting image information.

Powell does not disclose using a specific method for turning power off in the display device.

Moon, in the same display field, discloses turning power on and off in a liquid crystal display device by inactivating a power supply circuit using a controller unit, wherein some of internal circuits are also inactivated when the power supply circuit is inactivated. The display device comprises a timer for controlling the timing of turning the power off. Moon further discloses detecting and accepting a write command to the display even while the power is off (column 5, lines1-8) and performing image writing on the display in response to the write command.

It would have been obvious to one of ordinary skill in the art to use Moon's power off method in Powell's invention to turn the power on and off since Powell does not teach using any specific method for turning the power on and off.

6. Claims 19, 27, 35, 37, 38, 40, 41, 43, 44, 46, 49 and 51-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Powell "Cholesteric LCDs show images after power is turned off" in view of Moon.

Powell discloses a liquid crystal display device comprising: a liquid crystal display which uses reflective type liquid crystal with a memory effect (page 99, second paragraph), wherein the liquid crystal display exhibits a cholesteric phase. Powell also discloses turning power off and displaying images while the power is off (see title). The liquid crystal display inherently comprises a power supply circuit, an input means, a driving circuit, a controller, a controller and central processing unit for generating and outputting image information.

Powell does not disclose using a specific method for turning power on and off in the display device.

Moon, in the same display field, discloses turning power on and off in a liquid crystal display device by inactivating a power supply circuit using a controller unit, wherein internal circuits are also inactivated when the power supply circuit is inactivated. The display device comprises a timer for controlling the timing of turning the power off. Moon further discloses detecting and accepting a write command to the display even while the power is off (column 5, lines1-8) and performing image writing on the display in response to the write command.

It would have been obvious to one of ordinary skill in the art to use Moon's power off method in Powell's invention to turn the power on and off since Powell does not teach using any specific method for turning the power on and off.

7. Claims 25 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Powell "Cholesteric LCDs show images after power is turned off" in view of Moon and Fitch (5912653).

. Powell discloses a liquid crystal display device comprising: a liquid crystal display which uses reflective type liquid crystal with a memory effect (page 99, second paragraph), wherein the liquid crystal display exhibits a cholesteric phase. Powell also discloses turning power off and displaying images while the power is off (see title). The liquid crystal display inherently comprises a power supply circuit, an input means, a driving circuit, a controller, a controller and central processing unit for generating and outputting image information.

Powell does not disclose using a specific method for turning power on and off in the display device.

Moon, in the same display field, discloses turning power off in a liquid crystal display device by inactivating a power supply circuit using a controller unit, wherein internal circuits are also inactivated when the power supply circuit is inactivated. The display device comprises a timer for controlling the timing of turning the power off. Moon further discloses detecting and accepting a write command to the display even while the power is off (column 5, lines1-8) and performing image writing on the display in response to the write command.

It would have been obvious to one of ordinary skill in the art to use Moon's power on and off method in Powell's invention to turn the power on and off since Powell does not teach using any specific method for turning the power on and off.

Powell does not disclose the use of a flexible substrate. However, using flexible substrates in a LCD device to make the LCD device flexible is well known in the art as shown by Fitch (see abstract). Thus, it would have been obvious to one of ordinary skill in the art to use the flexible substrates in Powell's liquid crystal display device to make the display device flexible. By doing so, the display device can be protected from damaging by sudden impact.

8. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Powell "Cholesteric LCDs show images after power is turned off" in view of Iwamoto (4802739) and Moon) as applied to claims 1-2, 5-6, 8-18, 20, 23-24, 26, 28-32, and 34 above, and further in view of Fitch.

The above disclosures of Powell, Iwamoto, Moon and Fitch applied here.

9. Claims 36, 39, 42, and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Powell "Cholesteric LCDs show images after power is turned off" in view of Moon as applied to claim 19, 27, 35, 37, 38, 40, 41, 43, 44, and 46 above, and further in view of Iwamoto.

The above disclosures of Powell, Moon and Iwamoto applied here.

Response to Arguments

10. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis-Doon Chow whose telephone number is 703-305-4398. The examiner can normally be reached on 8:30-6:00, Alternate Monday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Saras can be reached on 703-305-9720. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

D. Chow
March 17, 2004

DENNIS-DOON CHOW
PRIMARY EXAMINER